## Amendments to the Claims

The listing of claims below is intended to replace all prior listings of claims presented in the above-identified application.

## 1-119 (canceled)

- 120. (Currently amended) An array of oligonucleotide probes on a solid support comprising:
- a solid support having an array of positions each suitable for attachment of an oligonucleotide probe;
- a linker or support suitable for coupling an oligonucleotide probe to the solid support and attached to the solid support at each of the array positions; and

an array of <u>capture</u> oligonucleotide probes on the solid support with at least some of the array positions being occupied by oligonucleotide probes, having greater than sixteen nucleotides <u>and substantially similar thermal stabilities</u>, wherein each <u>capture</u> oligonucleotide probe of the array differs from its adjacent <u>capture</u> oligonucleotide probe by at least 25% of the nucleotides.

- 121. (Currently amended) An array according to claim 120, wherein different <u>capture</u> oligonucleotide <u>probes</u> are attached at different array positions on the solid support to detect different nucleic acids.
- 122. (original) An array according to claim 120, wherein the solid support is made from a material selected from the group consisting of plastic, ceramic, metal, resin, gel, glass, silicon, and composites thereof.
- 123. (original) An array according to claim 120, wherein the solid support is in a form selected from the group consisting of slides, discs, membranes, films, and composites thereof.
- 124. (Currently amended) An array according to claim 120, wherein the solid support has an array of positions with <u>capture</u> oligonucleotide <u>probes</u> attached to <u>all of</u> the array of positions.

- 125. (original) An array according to claim 124, wherein the solid support has wells, raised regions, or etched trenches.
- 126. (original) An array according to claim 125, wherein the solid support is in a microtiter plate.
- 127. (original) An array according to claim 120, wherein the linker comprises a silane on a surface of the solid support.
- 128. (original) An array according to claim 120, wherein the solid support is functionalized with olefin, amino, hydroxyl, silanol, aldehyde, keto, halo, acyl halide, or carboxyl groups.
- 129. (original) An array according to claim 128, wherein the solid support is functionalized with an amino group by reaction with an amine compound selected from the group consisting of 3-aminopropyl triethoxysilane, 3-aminopropylmethyldiethoxysilane, 3-aminopropyl trimethoxysilane, N-(2-aminoethyl)-3-aminopropylmethyl dimethoxysilane, N-(2-aminoethyl-3-aminopropyl) trimethoxysilane, aminophenyl trimethoxysilane, 4-aminobutyldimethyl methoxysilane, 4-aminobutyl triethoxysilane, aminoethylaminomethylphenethyl trimethoxysilane, and mixtures thereof.
- 130. (original) An array according to claim 128, wherein the solid support is functionalized with an olefin-containing silane.
- 131. (original) An array according to claim 130, wherein the olefin-containing silane is selected from the group consisting of 3-(trimethoxysilyl)propyl methacrylate, *N*-[3-(trimethoxysilyl)propyl]-*N*'-(4-vinylbenzyl)ethylenediamine, triethoxyvinylsilane, triethylvinylsilane, vinyltrichlorosilane, vinyltrimethoxysilane, vinyltrimethylsilane, and mixtures thereof.
- 132. (original) An array according to claim 130, wherein the silanized support is polymerized with an olefin containing monomer.
- 133. (original) An array according to claim 132, wherein the olefincontaining monomer contains a functional group.

- 134. (original) An array according to claim 133, wherein the olefin-containing monomer is selected from the group consisting of acrylic acid, methacrylic acid, vinylacetic acid, 4-vinylbenzoic acid, itaconic acid, allyl amine, allylethylamine, 4-aminostyrene, 2-aminoethyl methacrylate, acryloyl chloride, methacryloyl chloride, chlorostyrene, dichlorostyrene, 4-hydroxystyrene, hydroxymethylstyrene, vinylbenzyl alcohol, allyl alcohol, 2-hydroxyethyl methacrylate, poly(ethylene glycol) methacrylate, and mixtures thereof.
- (original) An array according to claim 132, wherein the support is 135. polymerized with a monomer selected from the group consisting of acrylic acid, acrylamide, methacrylic acid, vinylacetic acid, 4-vinylbenzoic acid, itaconic acid, allyl amine, allylethylamine, 4-aminostyrene, 2-aminoethyl methacrylate, acryloyl chloride, methacryloyl chloride, chlorostyrene, dichlorostyrene, 4-hydroxystyrene, hydroxymethyl styrene, vinylbenzyl alcohol, allyl alcohol, 2-hydroxyethyl methacrylate, poly(ethylene glycol) methacrylate, and mixtures thereof, together with a monomer selected from the group consisting of acrylic acid, methacrylic acid, vinylacetic acid, 4-vinylbenzoic acid, itaconic acid, allyl amine, allylethylamine, 4-aminostyrene, 2-aminoethyl methacrylate, acryloyl chloride, methacryloyl chloride, chlorostyrene, dichlorostyrene, 4-hydroxystyrene, hydroxymethyl styrene, vinylbenzyl alcohol, allyl alcohol, 2-hydroxyethyl methacrylate, poly(ethylene glycol) methacrylate, methyl acrylate, methyl methacrylate, ethyl acrylate, ethyl methacrylate, styrene, 1-vinylimidazole, 2-vinylpyridine, 4-vinylpyridine, divinylbenzene, ethylene glycol dimethacrylate, N, N'-methylenediacrylamide, N, N'phenylenediacrylamide, 3,5-bis(acryloylamido) benzoic acid, pentaerythritol triacrylate, trimethylolpropane trimethacrylate, pentaerytrithol tetraacrylate, trimethylolpropane ethoxylate (14/3 EO/OH) triacrylate, trimethylolpropane ethoxylate (7/3 EO/OH) triacrylate, trimethylolpropane propoxylate (1 PO/OH) triacrylate, trimethylolpropane propoxylate (2 PO/OH) triacrylate, and mixtures thereof.
- 136. (original) An array according to claim 120, wherein the linker or support is non-hydrolyzable.
- 137. (currently amended) An array according to claim 120, wherein the array is reusable for repeatedly hybridizing oligonucleotides to the array of <u>capture</u> oligonucleotides <u>probes</u> on the solid support.

## 138-147 (canceled)

148. (Newly presented) An array according to claim 120, wherein each of the capture oligonucleotide probes on the solid support has a different nucleotide sequence.